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Started on	Wednesday, 25 February 2026, 11:28 AM
Completed on	Wednesday, 25 February 2026, 11:28 AM
Time taken	8 secs
Grade	0 out of a maximum of 10 (0%)

1

Marks: 1

The probability density function of loss amounts is given by

$$f(x) = 4(270-x)^3/270^4, 0 < x \leq 270$$

An insurance coverage for these losses has an ordinary deductible of 100. Calculate the mean excess loss at 100. _____

Answer:

X

[Make comment or override grade](#)

Incorrect

Correct answer: 34

Marks for this submission: 0/1.

2

Marks: 1

You are given:

- Auto liability losses for a group of insureds (Group R) follow a Pareto distribution with $\alpha = 6$ and $\theta = 270$.
- Losses from second group (Group S) follow a Pareto distribution with $\alpha = 2$ and $\theta = 380$.
- Group R has an ordinary deductible of 297, while Group S has a franchise deductible of 475.

Calculate the amount that the expected cost per payment for group S exceeds that for Group R.

Answer:

X

[Make comment or override grade](#)

Incorrect

Correct answer: 1216.6
Marks for this submission: 0/1.

3

Marks: 1

The distribution of X is specified by its hazard rate function

$$h(x) = xe^{-0.8x} / \int_x^{\infty} s e^{-0.8s} ds, x > 0$$

Determine the average payment per loss under a policy with 4 franchise deductible. _____

Answer:

X

[Make comment or override grade](#)

Incorrect

Correct answer: 0.9498

Marks for this submission: 0/1.

4

Marks: 1

Let X be a discrete random variable with probability generating function

$$P_X(z) = 0.35z^{250} + 0.23z^{750} + 0.23z^{1250} + 0.13z^{1750} + 0.06z^{2250}$$

Calculate $LER(1,350)$. _____

Answer:

X

[Make comment or override grade](#)

Incorrect

Correct answer: 0.883516

Marks for this submission: 0/1.

5

Marks: 1

An individual losses has the Pareto distribution with parameters $\alpha = 3$ and $\theta = 240$ with deductible of 59.4, coinsurance of 83% and a loss limit of 118.80 (before application of the deductible and coinsurance) are applied to each individual loss. Loss sizes are affected by 10% inflation. Determine the variance of the loss payment on the per payment basis. _____

Answer:

X

[Make comment or override grade](#)

Incorrect

Correct answer: 256.64

Marks for this submission: 0/1.

6

Marks: 1

In a major college football program, the revenue from ticket sales for a home game is being modeled as a Pareto distribution with $\alpha = 5$ and $\theta = 1,400,000$. For each home game, the coach receives a bonus only if revenue exceeds 1,120,000. The amount of bonus is 7% of the revenue in excess of 1,120,000. If there are 7 home games in each football season, calculate the expected bonus the football coach receives each football season. _____

Answer:

X

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Incorrect
Correct answer: 16337.06752
Marks for this submission: 0/1.

7 Annual losses follow a Pareto distribution with $\alpha = 2.90$ and $\theta = 1,110$. Calculate $\text{VaR}_{0.984}$.
Marks: 1

Answer:

X

[Make comment or override grade](#)

Incorrect
Correct answer: 3509.467865
Marks for this submission: 0/1.

8 Annual losses follow a Pareto distribution with parameters $\alpha = 5$ and $\theta = 500$. $\text{TVaR}_p = 820$, Determine p .
Marks: 1

Answer:

X

[Make comment or override grade](#)

Incorrect
Correct answer: 0.976203
Marks for this submission: 0/1.

9 The losses experienced by an insurance company have the following probability distribution:
Marks: 1

Loss size	Probability
0	0.60
150	0.25
250	0.10
1,300	0.05

Calculate the $\text{CTE}_{0.74}$.

Answer:

X

[Make comment or override grade](#)

Incorrect
Correct answer: 409.615385
Marks for this submission: 0/1.

10 Annual losses follow a Gamma distribution with parameters $\alpha = 3$ and $\theta = 900$. $\text{VaR}_{0.95} = 5666.21$, Determine $\text{TVaR}_{0.95}$.
Marks: 1

Answer:



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Incorrect

Correct answer: 6841.8

Marks for this submission: 0/1.



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